

WHAT IS CLAIMED IS:

1. A server apparatus capable of managing,
through internet, customer information utilizing a data
processing apparatus for managing toner cartridge
5 information obtained by communication with a printing
apparatus capable of recognizing a mount state and a
replacement state of a toner cartridge mounted thereon,
the server apparatus comprising:

management means for managing the customer
10 information by obtaining said toner cartridge
information managed by said data processing apparatus;

estimation means for calculating a demand
estimate for the toner cartridge by analyzing said
toner cartridge information in the customer information
15 managed by said management means;

generation means for generating plural toner
cartridge volume discount menus respectively different
for the customers, based on the demand estimate for the
toner cartridge calculated by said estimation means;

20 and

informing means for informing said data
processing apparatus of the plural toner cartridge
volume discount menus generated by said generation
means.

25

2. A server apparatus according to claim 1,
further comprising:

0051250.051001

obtaining means for obtaining an order request entered from said data processing apparatus according to any of the toner cartridge volume discount menus informed by said informing means; and

5 renewal means for renewing said toner cartridge information in said customer information, based on the order request obtained by said obtaining means.

3. A server apparatus according to claim 1,
10 wherein said generation means generates plural toner cartridge volume discount menus respectively different for the users and derived with a discount rate according to the cumulative number of purchase for each toner cartridge model, based on the demand estimate for
15 the toner cartridge calculated by said estimation means.

4. A server apparatus according to claim 1,
 wherein said generation means generates plural toner
20 cartridge volume discount menus respectively different for the users and derived with a discount rate according to the total cumulative number of purchase of the toner cartridge, based on the demand estimate for the toner cartridge calculated by said estimation
25 means.

5. A server apparatus according to claim 1,

wherein said generation means generates plural toner cartridge volume discount menus respectively different for the users and derived with a discount rate according to the number of purchase for each toner
5 cartridge model, based on the demand estimate for the toner cartridge calculated by said estimation means.

6. A server apparatus according to claim 1,
wherein said generation means generates plural toner
10 cartridge volume discount menus respectively different for the users and derived with a discount rate according to the total number of purchase for the toner cartridge, based on the demand estimate for the toner cartridge calculated by said estimation means.

15 7. A server apparatus according to claim 1,
wherein said generation means generates plural toner cartridge volume discount menus respectively different for the users and derived with a discount rate
20 according to the number of recovered toner cartridge, based on the demand estimate for the toner cartridge calculated by said estimation means.

25 8. A server apparatus according to claim 1,
wherein said generation means generates a toner cartridge volume discount menu to be recommended to each user, based on the demand estimate for the toner

00051560-051001

9. A server apparatus according to claim 1, wherein said estimation means executes a predetermined corrective calculation in the demand estimation for the toner cartridge, based on the result of analysis of said toner cartridge information in the customer information managed by said management means.

11. A data processing apparatus capable of informing a server apparatus, through internet, of toner cartridge information obtained by communication with a printing apparatus capable of recognizing a mount state and a replacement state of a toner cartridge mounted thereon, the data processing apparatus comprising:

transfer means for transferring said toner
cartridge information stored in said memory means to

obtaining means for obtaining a toner cartridge
volume discount menu informed from said server
apparatus;

designation means for designating the toner
cartridge volume discount menu displayed for browsing
by said display control means; and

12. A toner cartridge management method for use

a management step of managing the customer information by obtaining said toner cartridge information managed by said data processing apparatus;
an estimation step of calculating a demand

estimate for the toner cartridge by analyzing said toner cartridge information in the customer information managed by said management step;

5 a generation step of generating plural toner cartridge volume discount menus respectively different for the customers, based on the demand estimate for the toner cartridge calculated by said estimation step; and
an informing step of informing said data processing apparatus of the plural toner cartridge
10 volume discount menus generated by said generation step.

13. A method according to claim 12, further comprising:

15 an obtaining step of obtaining an order request entered from said data processing apparatus according to any of the toner cartridge volume discount menus informed by said informing step; and

a renewal step of renewing said toner cartridge
20 information in said customer information, based on the order request obtained by said obtaining step.

14. A method according to claim 12, wherein said generation step generates plural toner cartridge volume
25 discount menus respectively different for the users and derived with a discount rate according to the cumulative number of purchase for each toner cartridge

model, based on the demand estimate for the toner cartridge calculated by said estimation step.

15 15. A method according to claim 12, wherein said
5 generation step generates plural toner cartridge volume
discount menus respectively different for the users and
derived with a discount rate according to the total
cumulative number of purchase of the toner cartridge,
based on the demand estimate for the toner cartridge
10 calculated by said estimation step.

15 16. A method according to claim 12, wherein said
generation step generates plural toner cartridge volume
discount menus respectively different for the users and
15 derived with a discount rate according to the number of
purchase for each toner cartridge model, based on the
demand estimate for the toner cartridge calculated by
said estimation step.

20 17. A method according to claim 12, wherein said
generation step generates plural toner cartridge volume
discount menus respectively different for the users and
derived with a discount rate according to the total
number of purchase for the toner cartridge, based on
25 the demand estimate for the toner cartridge calculated
by said estimation step.

18. A method according to claim 12, wherein said generation step generates plural toner cartridge volume discount menus respectively different for the users and derived with a discount rate according to the number of recovered toner cartridge, based on the demand estimate for the toner cartridge calculated by said estimation step.

19. A method according to claim 12, wherein said generation step generates a toner cartridge volume discount menu to be recommended to each user, based on the demand estimate for the toner cartridge calculated by said estimation step.

20. A method according to claim 12, wherein said estimation step executes a predetermined corrective calculation in the demand estimation for the toner cartridge, based on the result of analysis of said toner cartridge information in the customer information managed by said management step.

21. A method according to claim 12, wherein said informing step informs said data processing apparatus, at designated date and time, of the plural toner cartridge volume discount menus generated by said generation step.

22. A toner cartridge management method for use
in a data processing apparatus capable of informing a
server apparatus, through internet, of toner cartridge
information obtained by communication with a printing
5 apparatus capable of recognizing a mount state and a
replacement state of a toner cartridge mounted thereon,
the method comprising:

a memory step of collecting and storing the toner
cartridge information based on toner cartridge control
10 information informed from said print apparatus;

a transfer step of transferring said toner
cartridge information stored in said memory means to
said server apparatus;

an obtaining step of obtaining a toner cartridge
15 volume discount menu informed from said server
apparatus;

a display control step of causing a display unit
to display for browsing the toner cartridge volume
discount menu obtained by said obtaining step;

20 a designation step of designating the toner
cartridge volume discount menu displayed for browsing
by said display control step; and

an issuing step of issuing a request for purchase
of the toner cartridge volume discount to said server
25 apparatus, according to the designation by said
designation step.

23. A computer readable memory medium storing a program for causing a server apparatus capable of managing, through internet, customer information utilizing a data processing apparatus for managing
5 toner cartridge information obtained by communication with a printing apparatus capable of recognizing a mount state and a replacement state of a toner cartridge mounted thereon, the program comprising:

10 a management step of managing the customer information by obtaining said toner cartridge information managed by said data processing apparatus;

15 an estimation step of calculating a demand estimate for the toner cartridge by analyzing said toner cartridge information in the customer information managed by said management step;

20 a generation step of generating plural toner cartridge volume discount menus respectively different for the customers, based on the demand estimate for the toner cartridge calculated by said estimation step; and

an informing step of informing said data processing apparatus of the plural toner cartridge volume discount menus generated by said generation step.

25 24. A computer readable memory medium storing a program for causing a data processing apparatus capable of informing a server apparatus, through internet, of

2025 RELEASE UNDER E.O. 14176

toner cartridge information obtained by communication with a printing apparatus capable of recognizing a mount state and a replacement state of a toner cartridge mounted thereon, the program comprising:

5 a memory step of collecting and storing the toner cartridge information based on toner cartridge control information informed from said print apparatus;

 a transfer step of transferring said toner cartridge information stored in said memory means to
10 said server apparatus;

 an obtaining step of obtaining a toner cartridge volume discount menu informed from said server apparatus;

15 a display control step of causing a display unit to display for browsing the toner cartridge volume discount menu obtained by said obtaining step;

 a designation step of designating the toner cartridge volume discount menu displayed for browsing by said display control step; and

20 an issuing step of issuing a request for purchase of the toner cartridge volume discount to said server apparatus, according to the designation by said designation step.

25 25. A program stored in the memory medium according to claim 23.

00851360-011001

26. A program stored in the memory medium according to claim 24.

27. A server for providing a user with a discount
5 service based on a result of purchase of a consumable,
comprising:

identification means for identifying said user
and a data processing apparatus based on specifying
information for specifying the user and the data
10 processing apparatus, transmitted through a
predetermined communication channel;

management means for storing and managing a
result of purchase for each user in memory means;

discount information memory means for storing
15 discount information corresponding to the result of
purchase for each kind of consumable; and

transmission means for transmitting discount
information, calculated by calculation means for
calculating the discount information for a user
20 identified by identification means, by referring, in
said discount information memory means, to the result
of purchase of said user read from said management
means, to the data processing apparatus identified by
said identification means through said predetermined
25 communication channel.

28. A server according to claim 27, wherein said

result of purchase is a result of new purchase for each
kind of consumable and/or a result of purchase in the
past, said calculation means is capable of calculating
plural discount information according to a combination
5 of the result of new purchase for each kind of
consumable and the result of purchase in the past, and
said transmission means transmits any of said plural
discount information calculable by said calculation
means, to the data processing apparatus identified by
10 said identification means through said predetermined
communication channel.

29. A server according to claim 28, wherein said
server apparatus is capable of managing, through a
15 predetermined communication channel, customer
information including at least consumable information
generated in an output apparatus capable of recognizing
a mount state and a replacement state of the
consumable, said calculation means calculates a demand
20 estimate for the consumable by analyzing information
based on said customer information transmitted from
said output apparatus or data processing apparatus
through said predetermined communication channel, said
information is stored and managed by said management
25 means, and said transmission means transmits demand
estimate information, calculated by said calculation
means, to said data processing apparatus.

0051250-051001

30. A server according to claim 29, wherein said transmission means transmits, to said data processing apparatus, image information provided with an operation button information capable of requesting the demand
5 estimate for the image information for ordering a merchandise.

31. A consumable management method by a server for providing a user with a discount service based on a
10 result of purchase of a consumable, the method comprising:

an identification step of identifying said user and a data processing apparatus based on specifying information for specifying the user and the data
15 processing apparatus, transmitted through a predetermined communication channel;

a readout step of reading, from a memory, a result of purchase including at least the kind and the amount of the consumable for the user identified by
20 said identification step; and

a calculation step of calculating discount information according said read kind and amount of the consumable.

32. A method according to claim 31, further comprising:

a transmission step of any of said plural

00851560.003001

discount information calculable by said calculation step to the data processing apparatus identified by said identification step;

wherein said result of purchase is a result of
5 new purchase for each kind of said consumable and/or a
result of purchase in the past, said calculation step
is capable of calculating plural discount information
according to a combination of the result of new
purchase for each kind of said consumable and the
10 result of purchase in the past.

33. A server according to claim 32, wherein said
server apparatus is capable of managing, through a
predetermined communication channel, customer
15 information including at least consumable information
generated in an output apparatus capable of recognizing
a mount state and a replacement state of the
consumable, said calculation step calculates a demand
estimate for the consumable by analyzing information
20 based on said customer information transmitted from
said output apparatus or data processing apparatus
through said predetermined communication channel, said
information is stored and managed by said management
step, and said transmission step transmits demand
25 estimate information, calculated by said calculation
step, to said data processing apparatus.

09551560.051001

34. A consumable management method according to claim 33, wherein said transmission step transmits, to said data processing apparatus, image information provided with an operation button information capable
5 of requesting the demand estimate for the image information for ordering a merchandise.

35. A memory medium storing program codes for realizing the consumable management method according to
10 claim 31.

36. A program for realizing the consumable management method according to claim 31.

ORIGINAL DOCUMENT